IN THE CLAIMS:

The following listing of claims will replace all prior versions, and listings, of claims in the application.

1-6. (Canceled)

7. (Previously Presented) A method comprising:

(a) reading a first stream of image pixels corresponding to an image X_K from an image memory;

(b) reading a second stream of pixels corresponding to an image A_K from an accumulation buffer;

(c) blending each image pixel of the image X_K with the corresponding pixel of the image A_K based on an alpha value provided with the image pixel, and thus, generating a third stream of output pixels defining an image A_{K+1}; and

(d) transferring the third stream of output pixels to the accumulation buffer;

(e) performing (a), (b), (c) and (d) for each image after the first image of a sequence of N images X_K, for $K = 0, 1, 2, \ldots, N-1$.

8. (Previously Presented) The method of claim 7, wherein the accumulation buffer color precision is larger than the image memory color precision.

9. (Previously Presented) The method of claim 7, wherein said blending comprises blending red, green and blue components of each output pixel in parallel.

10. (Previously Presented) The method of claim 7, wherein (a), (b), (c), (d) and (e) are performed by a graphics hardware accelerator chip in response to software functions executed on a host processor, wherein the image memory and the accumulation buffer are external to the graphics hardware accelerator chip.

11-16. (Canceled)

17. (Previously Presented) A system comprising:

an accumulation buffer;

an image memory for storing a sequence of N images X_K, wherein K=0, 1, 2, ..., N-1; and

a mixing unit configured to:

(a) read a first stream of image pixels corresponding to an image X_K from the image memory,

(b) read a second stream of pixels corresponding to an image A_K from the accumulation buffer,

(c) blend each image pixel of the image X_K with the corresponding pixel of the image A_K based on an alpha value provided with the image pixel, and thus, generate a third stream of output pixels defining an image A_{K+1}, and

(d) transfer the third stream of output pixels to the accumulation buffer;

wherein the mixing unit is further configured to perform (a), (b), (c) and (d) for each image after the first image of the sequence of N images.

18. (Previously Presented) The system of claim 17, wherein a color precision of the accumulation buffer is greater than a color precision of the image memory.

19. (Previously Presented) The system of claim 17, wherein the mixing unit includes a plurality of mixing circuits operating in parallel, wherein each mixing circuit operates on a corresponding color component.

20. (Previously Presented) The system of claim 17, wherein the accumulation buffer resides within a texture buffer of a graphics system.

21. (Previously Presented) The system of claim 17, wherein the image memory resides within a frame buffer of a graphics system.

22. (Previously Presented) The system of claim 17, wherein a color precision of the accumulation buffer is at least ΔN larger than a color precision of the image memory, wherein ΔN is the base two logarithm of the maximum number of images to be blended into the accumulation buffer.

23-24. (Canceled)

25. (Previously Presented) A system comprising:

a memory for storing a plurality of 2D images X_K, wherein the plurality of 2D images include a sequence of at least N slices through a 3D image representing one or more 3D objects;

an accumulation buffer; and

an accumulation unit configured to accumulate a composite image of a sequence of N of the 2D slices by reading a first 2D image of the sequence and storing it in the accumulation buffer;

wherein the accumulation unit is further configured for each of the second through the Nth image of the sequence of N images to:

(a) read a first stream of image pixels corresponding to a current image X_K of the sequence of images from the memory,

(b) read a second stream of pixels corresponding to a current image A_K from the accumulation buffer,

(c) blend each image pixel of the current image X_K with the corresponding pixel of the image A_K based on a weight provided with the image pixel, to generate a third stream of output pixels defining an image A_{K+1}, and

(d) replace corresponding pixels in the accumulation buffer with the third stream of output pixels.

26. (Previously Presented) The graphics system of claim 25, wherein the weight provided with each image pixel is a transparency value alpha read from the memory with each image pixel data.

27. (Previously Presented) The graphics system of claim 26, wherein said blend operation is described by a formula used for each pixel of A_{K+1} = alpha $*(X_K - A_K) + A_K$.

28. (Previously Presented) The graphics system of claim 25, wherein the weight is a specified non-negative value less than or equal to 1 for each image in the sequence of images.

29. (Previously Presented) The graphics system of claim 25, wherein the weight is a specified non-negative value less than or equal to 1 for each object of the one or more objects.

30. (Previously Presented) The method of claim 7, wherein the N images are a sequence of N 2D slices through a 3D image representing one or more 3D objects.

31. (Previously Presented) The method of claim 7, wherein said blending is described by a formula used for each pixel of A_{K+1} = alpha $*(X_K - A_K) + A_K$.

32. (Previously Presented) The system of claim 17, wherein the N images are a sequence of N 2D slices through a 3D image representing one or more 3D objects.

33. (Previously Presented) The graphics system of claim 17, wherein said blend operation is described by a formula used for each pixel of A_{K+1} = alpha $*(X_K - A_K) + A_K$.